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**PATENT**

**Attorney Docket No. 18950-70**

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37 CFR 1.8(a)

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**Serial No. 09/991,863**

**Filed: November 16, 2001**

**Title: APPARATUS AND METHOD FOR  
CARRYING OUT ANALYSIS OF  
SAMPLES USING RADIATION  
DETECTOR OUTPUT RATIOS**

**Applicant: Gordon**

**Group Art Unit No. 2877**

**Examiner: Unknown**

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

Commissioner for Patents  
Washington, D.C. 20231

**PRELIMINARY AMENDMENT**

Sir:

Prior to the examination of this CPA application, please amend the application as follows:

**IN THE ABSTRACT**

Please add the following abstract. A copy of which is being submitted as a separate page.

**ABSTRACT**

A system for conducting an optical inspection of a biological, chemical, or biochemical sample supported by an optically transparent disc. The disc is mounted for rotation about its central axis while a light source and a plurality of radiation detectors are provided for scanning optically readable portions and tracking information encoded to the disc and scanning the sample. The source is arranged above the disc and the detectors are arranged above and below the disc. The optical properties of the sample can be automatically and rapidly inspected by analyzing the output of the light detectors including the use of a ratio of first and second detector output. A third detector output also may be used in the analysis.

02/28/2002 SMINASS1 00000062 09991863

01 FC:203  
02 FC:204

45.00 OP  
140.00 OP

**IN THE CLAIMS**

Please cancel claim 1. Please add the following claims:

14. A method of conducting an optical inspection of a specimen in association with an optical disc and at least one optical reader, said method comprising:
  - providing a specimen support surface associated with said disc;
  - providing optically readable position and tracking encoded information to be read by said optical reader in association with said disc;
  - reading said encoded information with an optical reader; and
  - optically inspecting said specimen using a light source and at least two light detectors.
15. The method of claim 14 wherein said optically inspecting said specimen includes the use of three light detectors.
16. The method of claim 14 including separately measuring the output of a first detector output and a second detector output.
17. The method of claim 16 including separately measuring the output of a third detector output.
18. The method of claim 16 including comparing the first detector output and the second detector output to produce a ratio thereof.
19. The method of claim 18 including using a measured output of a first detector output and said ratio in an analysis of the inspection of said specimen.
20. The method of claim 19 including using a measured output of a third detector output in said analysis.
21. The method of any one of claims 14 through 20 wherein said at least two detectors are positioned on opposite sides of said disc.

22. The method of claim 15 wherein a first one of said detectors is on one side of said disc and a second and third detector of said detectors is on an opposite side of said disc.
23. The method of claim 21 wherein a first one of said detectors reads reflected light modulated by said encoded information of said disc.
24. The method of claim 23 wherein a second one of said detectors reads light transmitted through said disc.
25. The method of claim 24 wherein said second one of said detectors reads light transmitted through said encoded information after interaction of said light with a respective specimen.
26. The method of claim 25 wherein a third detector reads light transmitted through said encoded information after interaction of said light with a respective specimen.
27. The method of claim 26 wherein an analysis of said specimen uses the reading of a third detector only when the reading of a second detector or the ratio of the reading of a first detector relative a second detector exceeds a predetermined value.
28. A method for carrying out an optical inspection and analysis of a biological specimen in association with a computer, said method comprising:
- providing optically readable position encoded information in conjunction with an optical disc capable of being scanned and read by an optical reader associated with a computer;
  - providing a biological specimen for optical inspection of a sample support surface associated with said optical disc;
  - optically inspecting said specimen with a light source and detector system and producing a first data stream suitable for input to a computer; and
  - optically reading the encoded information of said disc and producing a second data stream suitable for input to a computer, said detector system for optically inspecting said specimen including a first detector on one side of said disc and a second detector on an opposite side of said disc.

29. The method of claim 28 wherein said encoded information is provided in a partially light reflective and partially light-transmissive layer within said disc.
30. The method of claim 29 wherein the output of said first detector and the output of said second detector are compared in a ratio which is used in said producing said first data stream.
31. The method of any one of claims 29 and 30 wherein said first detector reads reflected light modulated by said encoded information and said first detector output is used in said producing said second data stream.
32. The method of claim 28 wherein a third detector is provided on said opposite side of said disc.
33. The method of claim 32 wherein said third detector is used in said producing said first data stream.
34. The method of claim 33 wherein said third detector is provided to be used when the output of said second detector or a ratio of said first and second detector output exceed a predetermined value.
35. The method of claim 34 wherein said third detector is provided to increase the resolution with which the surface of the disc is read relative that of said second detector.

#### **REMARKS**


Please enter the abstract, a copy of which is being submitted as a separate page, and the substitute claims 14 through 35 for examination in this application.

Our check in the amount of \$185 is submitted herewith in payment of the 5 additional dependant and multiple dependent claims.

The Commissioner is hereby authorized to charge any additional filing fees under 37 C.F.R. § 1.16, or application processing fees under 37 C.F.R. § 1.17, which may be required now or during the pendency of this application, or credit any overpayment to Account No. 16-2230.

Respectfully submitted,

Dated: February 4, 2002

  
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